

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 **Claim 1.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase ~~selected from FucT-IV,~~
3 ~~FucT-V, FucT-VI, FucT-VII, and combinations thereof, wherein said first fucosyltransferase~~
4 ~~lacks a membrane anchoring domain,~~ said method comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer
7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;

9 wherein said acceptor moiety comprises a member selected from Gal β 1,4GlcNAc-OR
10 and NeuAc α 2,3Gal β 1,4GlcNAc-OR, wherein R is an amino acid, a saccharide, an
11 oligosaccharide or an aglycon group having at least one carbon atom and is linked
12 to or is part of a glycopeptide;

13 wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain,
14 and is a member selected from FucT-IV, FucT-V, FucT-VI, FucT-VII, and
15 combinations thereof.

1 **Claim 2.** (Previously presented) The method according to claim 1, wherein the
2 glycopeptide comprises a second acceptor moiety for a second fucosyltransferase, and the
3 method further comprises

4 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
5 moiety and the second fucosyltransferase under appropriate conditions to transfer
6 fucose from the fucose donor moiety to the acceptor moiety, such that the
7 glycopeptide has a substantially uniform fucosylation pattern.

1 **Claim 3.** (Original) The method according to claim 2, wherein the glycopeptide is
2 contacted with the first fucosyltransferase and the second fucosyltransferase simultaneously.

1 **Claim 4.** (Original) The method according to claim 2, wherein the glycopeptide is
2 contacted with the first fucosyltransferase and the second fucosyltransferase sequentially without
3 isolation of product resulting from contacting with the first fucosyltransferase.

1 **Claim 5.** (Cancelled)

1 **Claim 6.** (Previously presented) The method according to claim 2, wherein the second
2 fucosyltransferase is a member selected from FucT-IV, FucT-V, FucT-VI, FucT-VII and
3 combinations thereof.

1 **Claim 7.** (Cancelled)

1 **Claim 8.** (Currently amended) The method according to [[of]] claim 1, wherein the
2 fucosyltransferase is recombinantly produced.

1 **Claim 9.** (Cancelled)

1 **Claim 10.** (Currently amended) The method according to [[of]] claim 1, wherein at least
2 about 80% of the acceptor moieties on the glycopeptide are fucosylated.

1 **Claim 11.** (Currently amended) The method according to [[of]] claim 1, wherein the
2 glycopeptide is reversibly immobilized on a solid support.

1 **Claim 12.** (Currently amended) The method according to [[of]] claim 11, wherein the solid
2 support is an affinity chromatography medium.

1 **Claim 13.** (Currently amended) The method according to [[of]] claim 1, wherein the
2 glycopeptide is a full-length glycopeptide.

1 **Claim 14.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein the
2 glycopeptide is a fragment of a full length glycopeptide comprising an active site of the full-
3 length glycopeptide.

1 **Claim 15.** (Currently amended) The method according to claim 1, wherein the glycopeptide
2 is an IgG chimera.

1 **Claim 16.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein the
2 glycopeptide is a member selected from a hormone, a growth factor, an enzyme, an enzyme
3 inhibitor, a cytokine, a receptor, a ligand, and a ~~or a~~ monoclonal antibody.

1 **Claim 17.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein the
2 glycopeptide is on a cell.

1 **Claim 18.** (Cancelled)

1 **Claim 19.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein the fucose
2 donor moiety is GDP-fucose.

1 **Claim 20.** (Currently amended) The method according to ~~[[of]]~~ claim 1, further comprising,
2 prior to step (a), contacting said glycopeptide with a glycosyltransferase other than a
3 fucosyltransferase and a donor moiety other than a fucose donor moiety, thereby glycosylating
4 the glycopeptide with a glycosyl moiety other than a fucose unit.

1 **Claim 21.** (Currently amended) The method according to ~~[[of]]~~ claim 20, wherein the
2 glycosyltransferase is a member selected from the group consisting of galactosyltransferase,
3 sialyltransferase and combinations thereof.

1 **Claim 22.** (Withdrawn) A composition comprising a glycopeptide fucosylated according to
2 the method of claim 1.

1 **Claim 23.** (Withdrawn) The composition of claim 22, wherein at least 80% of the acceptor
2 moieties on the glycopeptide are fucosylated.

1 **Claim 24.** (Withdrawn) The composition of claim 22, wherein glycopeptide is attached to a
2 solid support.

1 **Claim 25.** (Withdrawn) The composition of claim 24, wherein the solid support is an
2 affinity chromatography medium.

1 **Claim 26.** (Withdrawn) The composition of claim 22, wherein the glycopeptide is a full-
2 length glycopeptide.

1 **Claim 27.** (Withdrawn) The composition of claim 22, wherein the glycopeptide comprises
2 $\text{Fuc}\alpha 1,2\text{Gal}\beta 1\text{-OR}$, $\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,4/3)\text{GlcNAc-OR}$,
3 $\text{NeuAc}\alpha 2,3\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,3/4)\text{GlcNAc-OR}$, $\text{Fuc}\alpha 1,2\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,4/3)\text{GlcNAc}\beta\text{-OR}$
4 wherein R is an amino acid, a saccharide, an oligosaccharide or an aglycon group having at least
5 one carbon atom and is linked to or is part of a glycopeptide.

1 **Claim 28.** (Withdrawn) The composition of claim 22, wherein the glycopeptide comprises
2 $\text{NeuAc}\alpha 2,3\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,3/4)\text{GlcNAc-OR}$, wherein R is an amino acid, a saccharide, an
3 oligosaccharide or an aglycon group having at least one carbon atom and is linked to or is part of
4 a glycopeptide.

1 **Claim 29.** (Withdrawn) The composition of claim 22, wherein the glycopeptide is a
2 hormone, a growth factor, an enzyme, an enzyme inhibitor, a cytokine, a receptor, a ligand, or a
3 monoclonal antibody.

1 **Claim 30.** (Withdrawn) The composition of claim 22, wherein the glycopeptide is on a cell.

1 **Claim 31.** (Currently amended) A method of producing a recombinant glycopeptide having a
2 fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and ~~[[the]] a first fucosyltransferase is selected from FucT-~~
6 ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof,~~ under appropriate
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated
9 recombinant glycopeptide, ~~wherein said first fucosyltransferase lacks a membrane~~
10 ~~anchoring domain;~~

11 wherein said acceptor moiety comprises a member selected from Gal β 1,4GlcNAc-OR
12 and NeuAc α 2,3Gal β 1,4GlcNAc-OR, wherein R is an amino acid, a saccharide, an
13 oligosaccharide or an aglycon group having at least one carbon atom and is linked
14 to or is part of a glycopeptide;

15 wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain,
16 and is a member selected from FucT-IV, FucT-V, FucT-VI, FucT-VII, and
17 combinations thereof; and

18 (b) terminating the transfer of the fucose to the fucose-acceptor when the fucosylation
19 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 32.** (Original) The method according to claim 31, further comprising:

2 (c) assaying the fucosylation pattern of the fucosylated recombinant glycopeptide,
3 thereby determining whether the fucosylation pattern is substantially identical to
4 the known fucosylation pattern.

1 **Claim 33.** (Original) The method according to claim 31, wherein the terminating is due to
2 exhausting in the reaction mixture a member selected from the group consisting of the
3 fucosyltransferase, the fucose donor moiety, the fucose acceptor quench with a chelator and
4 combinations thereof.

1 **Claim 34.** (Original) The method according to claim 31, wherein the glycopeptide
2 comprises a second acceptor moiety for a second fucosyltransferase, and the method further
3 comprises contacting the glycopeptide with a reaction mixture that comprises a fucose donor
4 moiety and the second fucosyltransferase under appropriate conditions to transfer fucose from
5 the fucose donor moiety to the second acceptor moiety.

1 **Claim 35.** (Currently amended) The method according to claim 34, wherein the
2 glycopeptide is contacted with the first fucosyltransferase and the second fucosyltransferase
3 simultaneously.

1 **Claim 36.** (Original) The method according to claim 34, wherein the glycopeptide is
2 contacted with the first fucosyltransferase and the second fucosyltransferase sequentially without
3 isolation of product resulting from contacting with the first fucosyltransferase.

1 **Claim 37.** (Cancelled)

1 **Claim 38.** (Previously presented) The method according to claim 34, wherein the second
2 fucosyltransferase is eukaryotic and a member selected from FucT-IV, FucT-V, FucT-VI,
3 FucT-VII and combinations thereof.

1 **Claim 39.** (Cancelled)

1 **Claim 40.** (Currently amended) The method according to [[of]] claim 31, wherein the
2 fucosyltransferase is recombinantly produced.

1 **Claim 41.** (Cancelled)

1 **Claim 42.** (Currently amended) The method according to [[of]] claim 31, wherein at least
2 about 80% of the acceptor moieties on the glycopeptide are fucosylated.

1 **Claim 43.** (Currently amended) The method according to [[of]] claim 31, wherein the
2 glycopeptide is reversibly immobilized on a solid support.

1 **Claim 44.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the solid
2 support is an affinity chromatography medium.

1 **Claim 45.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the
2 glycopeptide is a full-length glycopeptide.

1 **Claim 46.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the
2 glycopeptide is a fragment of a full length glycopeptide comprising an active site of the full-
3 length glycopeptide.

1 **Claim 47.** (Currently amended) The method according to claim 31, wherein the
2 glycopeptide is an IgG chimera.

1 **Claim 48.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the
2 glycopeptide is a member selected from a hormone, a growth factor, an enzyme, an enzyme
3 inhibitor, a cytokine, a receptor, a ligand, ~~[[or]]~~ and a monoclonal antibody.

1 **Claim 49.** (Currently amended) The method according to ~~[[of]]~~ claim 31 wherein the
2 glycopeptide is on a cell.

1 **Claim 50.** (Cancelled)

1 **Claim 51.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the
2 fucose donor moiety is GDP-fucose.

1 **Claim 52.** (Currently amended) The method according to ~~[[of]]~~ claim 31, further
2 comprising, prior to step (a), contacting said glycopeptide with a glycosyltransferase other than a
3 fucosyltransferase and a donor moiety other than a fucose donor moiety, thereby glycosylating
4 the glycopeptide with a glycosyl moiety other than a fucose unit.

1 **Claim 53.** (Currently amended) The method according to ~~[[of]]~~ claim 52, wherein the
2 glycosyltransferase is a member selected from the group consisting of galactosyltransferase,
3 sialyltransferase and combinations thereof.

1 **Claim 54.** (Original) A large-scale method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, said method
3 comprising:

4 contacting at least about 500 mg of glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and the first fucosyltransferase under appropriate conditions
6 to transfer fucose from the fucose donor moiety to the acceptor moiety, such that
7 the glycopeptide has a substantially uniform fucosylation pattern.

1 **Claim 55.** (Original) A large-scale method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

4 (a) contacting at least about 500 mg of the recombinant glycopeptide with a reaction
5 mixture that comprises a fucose donor moiety and the fucosyltransferase under
6 appropriate conditions to transfer fucose from the fucose donor moiety to a fucose
7 acceptor moiety on said recombinant glycopeptide, thereby producing a
8 fucosylated recombinant glycopeptide; and

9 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
10 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 56.** (Cancelled)

1 **Claim 57.** (Cancelled)

1 **Claim 58.** (Cancelled)

1 **Claim 59.** (Cancelled)

1 **Claim 60.** (Cancelled)

1 **Claim 61.** (Cancelled)

1 **Claim 62.** (Cancelled)

1 **Claim 63.** (Cancelled)

1 **Claim 64.** (Cancelled)

1 **Claim 65.** (Previously presented) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, said method
3 comprising:

4 (a) contacting said glycopeptide with a glycosyltransferase other than a fucosyltransferase
5 and a donor moiety other than a fucose donor moiety, thereby glycosylating the
6 glycopeptide with a glycosyl moiety other than a fucose unit, wherein the
7 glycosyltransferase is a member selected from the group consisting of
8 galactosyltransferase, sialyltransferase and combinations thereof, and

9 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
10 moiety and the first fucosyltransferase under appropriate conditions to transfer
11 fucose from the fucose donor moiety to the acceptor moiety, such that the
12 glycopeptide has a substantially uniform fucosylation pattern.

1 **Claim 66.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer

7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;
9 wherein the glycopeptide comprises a second acceptor moiety for a second
10 fucosyltransferase, and

11 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
12 moiety and the second fucosyltransferase under appropriate conditions to transfer
13 fucose from the fucose donor moiety to the acceptor moiety, such that the
14 glycopeptide has a substantially uniform fucosylation pattern.

1 **Claim 67.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer
7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;
9 wherein the glycopeptide comprises a second acceptor moiety for a second
10 fucosyltransferase; and

11 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
12 moiety and the second fucosyltransferase under appropriate conditions to transfer
13 fucose from the fucose donor moiety to the acceptor moiety, such that the
14 glycopeptide has a substantially uniform fucosylation pattern;
15 wherein the glycopeptide is contacted with the first fucosyltransferase and the second
16 fucosyltransferase simultaneously.

1 **Claim 68.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first

3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer
7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;

9 wherein the glycopeptide comprises a second acceptor moiety for a second
10 fucosyltransferase, and

11 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
12 moiety and the second fucosyltransferase under appropriate conditions to transfer
13 fucose from the fucose donor moiety to the acceptor moiety, such that the
14 glycopeptide has a substantially uniform fucosylation pattern; and

15 wherein the second fucosyltransferase is a member selected from FucT-IV, FucT-V,
16 FucT-VI, FucT-VII and combinations thereof.

1 **Claim 69.** (Cancelled)

1 **Claim 70.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer
7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;

9 wherein the glycopeptide is a fragment of a full length glycopeptide comprising an active
10 site of the full-length glycopeptide.

1 **Claim 71.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer
7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;
9 wherein the glycopeptide is an IgG chimera.

1 **Claim 72.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer
7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;

9 wherein the glycopeptide is a hormone, a growth factor, an enzyme, an enzyme inhibitor,
10 a cytokine, and a receptor.

1 **Claim 73.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
6 moiety and the first fucosyltransferase under appropriate conditions to transfer

7 fucose from the fucose donor moiety to the acceptor moiety, such that the
8 glycopeptide has a substantially uniform fucosylation pattern;
9 wherein the glycopeptide is on a cell.

1 **Claim 74.** (Currently amended) A method for modifying the glycosylation pattern of a
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method
4 comprising:

5 contacting said glycopeptide with a glycosyltransferase selected from the group
6 consisting of galactosyltransferase, sialyltransferase and combinations thereof,
7 and a donor moiety other than a fucose donor moiety, thereby glycosylating the
8 glycopeptide with a glycosyl moiety other than a fucose unit; and

9 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
10 moiety and the first fucosyltransferase under appropriate conditions to transfer
11 fucose from the fucose donor moiety to the acceptor moiety, such that the
12 glycopeptide has a substantially uniform fucosylation pattern.

1 **Claim 75.** (Currently amended) A method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-
6 IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

12 wherein the glycopeptide comprises a second acceptor moiety for a second
13 fucosyltransferase;
14 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
15 moiety and the second fucosyltransferase under appropriate conditions to transfer
16 fucose from the fucose donor moiety to the second acceptor moiety; and
17 (c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
18 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 76.** (Currently amended) A method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-
6 IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

12 wherein the glycopeptide comprises a second acceptor moiety for a second
13 fucosyltransferase;
14 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
15 moiety and the second fucosyltransferase under appropriate conditions to transfer
16 fucose from the fucose donor moiety to the acceptor moiety, such that the
17 glycopeptide has a substantially uniform fucosylation pattern;
18 wherein the glycopeptide is contacted with the first fucosyltransferase and the second
19 fucosyltransferase simultaneously; and
20 (c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
21 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 77.** (Currently amended) A method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-
6 IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

12 wherein the glycopeptide comprises a second acceptor moiety for a second
13 fucosyltransferase;

14 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor
15 moiety and the second fucosyltransferase under appropriate conditions to transfer
16 fucose from the fucose donor moiety to the acceptor moiety, such that the
17 glycopeptide has a substantially uniform fucosylation pattern; and

18 wherein the second fucosyltransferase is a member selected from FucT-IV, FucT-V,
19 FucT-VI, FucT-VII, and combinations thereof; and

20 (c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
21 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 78.** (Cancelled)

1 **Claim 79.** (Currently amended) A method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-

6 ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof~~, under appropriate
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and
12 wherein the glycopeptide is a fragment of a full length glycopeptide comprising an active
13 site of the full-length glycopeptide; and
14 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
15 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 80.** (Currently amended) A method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-
6 ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof~~, under appropriate
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and
12 wherein the glycopeptide is an IgG chimera; and
13 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
14 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 81.** (Currently amended) A method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

- 4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and ~~[[the]] a first~~ fucosyltransferase, ~~is selected from FucT-~~
6 ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof,~~ under appropriate
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and
12 wherein the glycopeptide is a hormone, a growth factor, an enzyme, an enzyme inhibitor,
13 a cytokine, and a receptor; and
14 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
15 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 82.** (Currently amended) A method of producing a recombinant glycopeptide having
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known
3 fucosylation pattern, said method comprising:

- 4 (a) contacting said glycopeptide with a glycosyltransferase other than a fucosyltransferase
5 and a donor moiety other than a fucose donor moiety, thereby glycosylating the
6 glycopeptide with a glycosyl moiety other than a fucose unit, wherein the
7 glycosyltransferase is a member selected from the group consisting of
8 galactosyltransferase, sialyltransferase and combinations thereof
9 (b) contacting the recombinant glycopeptide with a reaction mixture that comprises a
10 fucose donor moiety and ~~[[the]] a first~~ fucosyltransferase, ~~is selected from FucT-~~
11 ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof,~~ under appropriate
12 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor
13 moiety on said recombinant glycopeptide, thereby producing a fucosylated
14 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,
15 lacks a membrane anchoring domain, and is a member selected from FucT-IV,
16 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

(c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation pattern substantially identical to the known fucosylation pattern is obtained.

Claim 83. (New) A method for modifying the glycosylation pattern of a glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain, and is FucT-VI, said method comprising:

(a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor moiety and the first fucosyltransferase under appropriate conditions to transfer fucose from the fucose donor moiety to the acceptor moiety, such that the glycopeptide has a substantially uniform fucosylation pattern.

Claim 84. (New) A method for modifying the glycosylation pattern of a glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain, and is FucT-VII, said method comprising:

(a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor moiety and the first fucosyltransferase under appropriate conditions to transfer fucose from the fucose donor moiety to the acceptor moiety, such that the glycopeptide has a substantially uniform fucosylation pattern.

Claim 85. (New) A method of producing a recombinant glycopeptide having a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known fucosylation pattern, said method comprising:

(a) contacting the recombinant glycopeptide with a reaction mixture that comprises a fucose donor moiety and a first fucosyltransferase, under appropriate conditions to transfer fucose from the fucose donor moiety to a fucose acceptor moiety on said recombinant glycopeptide, thereby producing a fucosylated recombinant glycopeptide;

wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain, and is FucT-VI; and

11 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
12 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 86.** (New) A method of producing a recombinant glycopeptide having a fucosylation
2 pattern that is substantially identical to a fucosylated glycopeptide having a known fucosylation
3 pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a
5 fucose donor moiety and a first fucosyltransferase, under appropriate conditions
6 to transfer fucose from the fucose donor moiety to a fucose acceptor moiety on
7 said recombinant glycopeptide, thereby producing a fucosylated recombinant
8 glycopeptide;

9 wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain,
10 and is FucT-VII; and

11 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation
12 pattern substantially identical to the known fucosylation pattern is obtained.

Appl. No. 09/855,320
Amdt. dated March 26, 2004
Reply to Office Action of November 17, 2003

PATENT

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1 replaces the original sheet including Fig. 1.

Attachment: Replacement Sheet